

**NEW YORK/ NEW JERSEY EDUCATION AND RESEARCH
CENTER FOR OCCUPATIONAL SAFETY AND HEALTH
SUMMARY ANNUAL REPORT**

July 1, 2009 – June 30, 2010

NIOSH Training Grant

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UOSHERC, the Universities Occupational Safety and Health Education and Research Center (a/k/a NY/NJ ERC), is a consortium of five educational institutions (www.nynjerc.org) offering ten programs in occupational health and safety training. Our constituent programs are:

- Industrial Hygiene and Hazardous Substance Academic Training (HSAT) at Hunter College School of Health Sciences (New York City, NY);
- Occupational Medicine at Mount Sinai School of Medicine (New York City, NY);
- Occupational Medicine at the University of Medicine and Dentistry of New Jersey (UMDNJ)/Robert Wood Johnson Medical School (Piscataway, NJ);
- Occupational Safety & Health Engineering at New Jersey Institute of Technology (Newark, NJ);
- Occupational Ergonomics and Biomechanics at New York University (NYC, NY).
- Continuing Education and Outreach and Hazardous Substance Training (HST) at UMDNJ-School of Public Health (Piscataway, NJ); and the
- Pilot Project Research Training Program and NORA Research Support Program at Mount Sinai School of Medicine (New York City, NY).

Philip Landrigan, MD, MSc and Chairman of the Department of Preventive Medicine at Mount Sinai School of Medicine, is Director of this ERC. UOSHERC is administered by a core staff at Mount Sinai in conjunction with the ERC Management Committee, consisting of all ERC program directors.

Students and Residents Trained: During the 2009-10 grant year, UOSHERC trained a total of 83 students and residents in its academic-degree programs, of whom 41 were full-time students and 42 were part-time students. Twenty-six of the incoming students and residents, at least one in each core program, were underrepresented minority or disabled trainees. Thirty-two students and residents graduated: 18 in industrial hygiene, 3 in occupational medicine, 6 in safety engineering and 5 (MS only) in ergonomics. Of the 83 students, 31 (37 percent) received NIOSH funding. Our ERC Continuing Education program provided short-term training to 2,301 persons – 78 percent of attendees were from private industry; 13 percent from government agencies, and 10 percent from academia.

Highlights: The highlight of this year was our fifth annual ERC Interdisciplinary Northeast Occupational Safety and Health Tour. During the week of June 6 - 10, 2009, 20 ERC students and 9 faculty members (at least one from each of our NY/NJ ERC academic programs) traveled across the Northeastern U.S to visit industrial sites of current or historical health and safety interest, of whom two were Hunter nursing students and 5 were faculty and staff from the Univ. of Cincinnati ERC. This year we visited industries engaged in winemaking, granite quarrying, commercial fishing, fish processing, asbestos mining and hazardous waste cleanup of PCBs. In addition, UOSHERC held its 31st annual scientific conference on April 9, 2010 on “From Fear to Flu: Novel H1N1, Health Care Workers and Workplace Risks” with keynote speakers NIOSH Director Dr. John Howard and OSHA Director Dr. David Michaels. The annual ERC student research day was held on May 12, 2010. The ERC also offers two other interdisciplinary courses: a Fall OSH seminar and a Spring plant visits course.

Industrial Hygiene and HSAT (Hunter): The Hunter Environmental and Occupational Health Sciences (EOHS) Program has 5 full-time faculty lines. This past year Hunter hired the distinguished Thomas Matte, MD, MPH and former Director of Environmental Research at the New York City Department of Health, as a Full Professor with tenure – its first occupational and environmental physician. The MS-EOHS track, which includes both the IH and HSAT programs, was re-accredited by ABET in

2007 for 6 more years. Also Hunter/CUNY has applied to CEPH for accreditation as a School of Public Health with site visit in December 2010. In 2009-10, the MS-EOHS track had 48 students (14 fulltime and 34 part-time), of whom 18 graduated. About 29 of the 48 students (60 percent) were from underrepresented minority backgrounds. The HSAT Program represents a concentration within the MS-EOHS program. In 2009-10, nine MS-EOHS students were enrolled in this concentration, of whom three graduated. All MS-EOHS graduates (except two unknown) in the past year have found professional OSH employment. Two other major developments this year: The doctoral program in EOHS admitted its first class (seven students) in September 2009; and Dr. Caravanos, after consultation with and support by Dean Kristine Gebbie of the Hunter-Bellevue School of Nursing, has embarked on an effort to reinvigorate the joint MS MPH degree program with Nursing and EOHS.

Occupational Medicine (Mount Sinai and UMDNJ-RWJMS): The ERC has two occupational medicine residency programs: Mount Sinai School of Medicine (MSSM) and UMDNJ-Robert Wood Johnson Medical School (UMDNJ-RWJMS). The MSSM Program received full ACGME re-accreditation (five years) in October 2008. In 2009-10, the MSSM Program had five OM residents and UMDNJ-RWJMS four. Three of the five MSSM residents (60 percent), and two of the four RWJ residents (50 percent) were from underrepresented minorities. The UMDNJ program graduated two residents in 2009-10, and the MSSM program graduated one. Two of these three are professionally employed in occupational medicine, and the third is currently seeking an OM position. UMDNJ is now opening a new field internship with Meridian Health Systems, a broad-based health system in eastern New Jersey with an OSH program for small employers. Jared Schulman, MD, MPH, a 2009 graduate at UMDNJ, will be the program's field supervisor. Talks on sharing field sites between the two programs are ongoing.

Occupational Safety and Health Engineering (NJIT): Dr. Sengupta and Dr. Olsen continue as Director and Associate Director of the OSHE program, respectively. The educational program resides within the Department of Mechanical and Industrial Engineering (MIE) and requires 36 credit hours of coursework for the degree, including a mandatory research-oriented thesis for NIOSH trainees. Eighteen students studied in the program in 2009-10, of whom five graduated. Three of the graduates are now working in the health and safety field (Wyeth Pharmaceutical, Rohm and Haas Chemical and Bombardier Railcar mfg.), and two are seeking employment. Twelve of the 18 students in the program this year (67 percent) were from underrepresented minority backgrounds. One peer-reviewed submission and two student conference presentations this year were based on student research in the OSHE program. A major program focus in the future will be improvement of its research output.

Occupational Ergonomics and Biomechanics (ERBI) (NYU): The Program had 8 Masters students in 2009-10, of whom five graduated. All five graduates this year are now professionally employed. Four of the 8 Masters students were from underrepresented minority backgrounds, a significant advance over past enrollments. During 2009-10 ERBI faculty published 16 peer-reviewed articles, two of which resulted from NORA research support funds. Also faculty and students published one peer-reviewed article and made nine conference presentations. In the future, ERBI will continue the objectives initiated in 2007-2008 to promote and improve ergonomics in health care, linking both patient and employee safety. A multidisciplinary group of interested ERBI faculty continues to explore further ERC collaboration that emphasizes translation of research findings into practical applications (r2p).

Continuing Education & Outreach (CE/O)/HST (UMDNJ): NY/NJ ERC meets the continuing education and outreach training needs of the occupational health and safety practitioners of New York, New Jersey and Puerto Rico. The CE/O Program, under Mitchel Rosen, MS, offered a total of 182 courses to 2,301 persons in 2009-10. Of the attendees 77.5 percent were from private industry, 12.5 percent from government and 10 percent from academic institutions. Fully 335 of those trained were

clinicians (80 physicians and 255 nurses) and 219 were industrial hygienists. Seventy percent of the trainees were safety professionals. The HST Program works extensively with public agencies in New Jersey and New York to provide hazardous materials training. From July 1, 2009 to June 30, 2010, 74 HST courses were offered to 1,096 students. Through the HST program 46 scholarships were awarded to public sector employees. Outreach: Faculty from the NY/NJ ERC were involved in a number of outreach efforts. Physicians from the occupational medicine programs have provided numerous interviews and lectures, based on their continued medical monitoring of responders from the WTC recovery site. UMDNJ partnered with the NYC School Construction Authority (SCA) to facilitate their Summer Intern Safety Training Program for 2009. Two hundred college students recruited for summer work received safety training through this program. Participation by Associate Director Koshy Koshy on the New Jersey State Industrial Safety Council (NJSISC) provides an additional avenue of IH and OS outreach. Mitchel Rosen continues to present OSH issues in two Rutgers University undergraduate courses. Also the UMDNJ-School of Public Health and the Hunter and NJIT AV Centers have hosted video teleconferencing for the ERC's interdisciplinary Site Visits course, assisted by funds from the NORA Research Training Program. Finally to enhance outreach, the ERC has developed a Facebook group to provide information about the ERC and its activities.

Pilot Project Research Training (PPRT) (Mount Sinai): The Pilot Project Research Training (PPRT) Program provides "seed money" to trainees and other researchers at the five institutions which make up this ERC, as well as to those at other institutions in Region II whose students or faculty wish to undertake occupational safety and health (OSH) research, such as the IH Program at the University of Puerto Rico, one of the two Training Program Grant (TPG) recipients in Region II. In 2009-10, eight applications were submitted and six projects were funded, five to trainees or recent graduates, and one to a junior faculty member. NORA topics included: Back and Musculoskeletal Disorders, Work Organization, Special Populations at Risk, Exposure Assessment Methods, and Intervention Effectiveness Research. Also in 2009-10 nine applications were received and six were funded for pilot research in 2010-11. Applications were submitted from three of the five Region II ERC institutions and from the University of Puerto Rico. Of the six funded projects for 2010-11, two were awarded to ERC training graduates, three to new ERC investigators and three to current ERC trainees. As always, prior awardees present their findings at our annual scientific conference.

NORA Research Training Program (Mount Sinai): A variety of courses and research projects provide research training for graduate students through this program. This year UMDNJ residents conducted two such studies: one on the health effects of diesel exhaust and the other a study of needlestick exposures among hospital workers, which served as the basis of Dr. Katz's Masters thesis. Meanwhile faculty at UMDNJ in cooperation with colleagues at Mount Sinai will continue to develop a joint study on influenza risk, vaccination, and respiratory personal protective equipment use among healthcare workers. NYU graduate students and faculty in cooperation with the NYU Dept. of Orthopedic Surgery continued their research on shoulder and scapula kinematics, comparing hospital patients, many of whose injuries were caused on the job, and healthy subjects. NJIT students and faculty conducted research on muscle fatigue and musculoskeletal disorders due to back-pack loading and position, and also on ergonomic effects of hand tool use. At Hunter College Masters students were assisted by partial scholarship awards in completing their NORA-related thesis and capstone projects. At Mount Sinai, in keeping with the ERC's growing interest in interdisciplinary joint projects on health care OSH issues, Robert Meyer, an MSSM resident, has embarked on a project with Ms. Jennifer Horonjeff, a student in the NYU ERC Ergonomics program, to study work-related musculoskeletal disorders (WRMSDs) among ultrasonographers at Mount Sinai Medical Center and Memorial Sloan-Kettering Cancer Center. Also UMDNJ hosted video teleconferences for the ERC plant visits course and streamed proceedings of the annual ERC Scientific Meeting.